REMARKS

Claims 1-18 are pending and presented for examination in connection with the subject application. Claims 1, 15 and 17 are the independent claims in the application.

Claims 1-18 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent No. 6,047,257 to Dewaele (hereinafter "Dewaele '257").

The claimed invention relates to hands-free command and control of dental images in a dental imaging system. The dental images may include, for example, intra-oral images, panoramic dental images, EOTI images and periodontic images.

As discussed in the application at page 2, lines 13-26, there are circumstances in which a dentist needs to refer to one or more of a patient's dental images, while attending to the patient. In current dental office practice, many of these images are stored electronically in a storage device of a dental imaging system. Conventional dental imaging systems generally require manual operation of, for example, a mouse and/or keyboard to specify a computer-stored dental image to be retrieved and displayed. Since both hands of the dentist/technician often are needed for attending to a patient, the dentist typically would need to switch back and forth between attending to the patient and operating the computer, which may be time consuming. Further, switching back and forth between patient and hand-operated computer input devices results in complications regarding infection control.

The apparatus, systems and methods of this application provide a solution to the problems experienced with conventional dental image handling techniques. The apparatus, systems and methods, as discussed in the application at page 5, lines 19-27, use computerized voice recognition to enable a dentist or dental technician to specify, through spoken commands, dental

images to be retrieved from storage in a computer system and displayed, without requiring the dentist/technician to manually operate computer input devices. Thus, the dentist/technician can continue to use her/his hands for attending to the patient, without risking contamination by operating the computer input devices.

Independent claim 1 relates to an apparatus for hands-free command and control of a dental imaging system comprising a speech recognition unit and a command and control processor. The speech recognition unit converts a voice command to electronic speech data to select one of a plurality of dental images stored in a storage device for viewing. The command and control processor receives the electronic speech data from the speech recognition unit, and causes the selected dental image to be retrieved from the storage device and then displayed on a display monitor.

Independent claim 15 relates to a dental imaging system, comprising a microphone, a display monitor, a storage device and a speech recognition command unit. The storage device stores a plurality of dental images corresponding to a selected dental patient. The speech recognition command unit converts to electronic speech data a voice command received through the microphone to select one of the plurality of dental images for viewing, and processes the electronic speech data to cause the selected dental image to be retrieved from the storage device and then displayed on the display monitor.

Independent claim 17 relates to a method of hands-free command and control of a dental imaging system, comprising the steps of converting to electronic speech data a voice command from a user through a microphone to select for viewing one of a plurality of dental images stored in a storage device for a selected dental patient, and processing the electronic speech data to

cause the selected dental image to be retrieved from the storage device and then displayed on a display monitor.

Dewaele '257, as understood by Applicants, relates to a work station for providing, via a microphone and a speech recognition unit, identification information to be associated with an image on a photo-stimulable phosphor screen, during an image recording process.

Dewaele '257 does not disclose or suggest, however, retrieval for display of a computer-stored dental (or medical) image based on a voice command to retrieve the image which is detected through speech recognition.

The September 6, 2002 Office Action cites (a) col. 5, lines 1-65 and col. 7, lines 45-55 and (b) col. 9, line 39 through col. 10, line 65 of Dewaele '257 as support that Dewaele '257 discloses (a) converting to electronic speech data a voice command from a user to select one of plural dental images stored in a storage device and (b) processing the electronic speech data corresponding to the voice command to cause the selected dental image to be retrieved from the storage device and then displayed on a display monitor, respectively.

Col. 5, lines 1-65 of Dewaele '257 discusses using voice processing for supplying identification information to be associated with medical images. Dewaele '257 (col. 1, lines 10-26) states as follows regarding identification of medical images:

> "... The invention relates to identification of medical images, more specifically of radiographic images.
>
> 2. Description of Prior Art
>
> When a medical image of a patient is to be produced, a number of identification data are to be associated with said image. Among such data the most relevant are the data identifying the patient to which the image pertains and the data identifying the examination type that is performed or is going to be performed. Other data that are commonly associated with a medical image are the name of the radiologist, the sex of the patient etc.

> It is nowadays practice to enter a patient's identification data into a data base, commonly called a hospital information system (HIS). At a subsequent visit of the patient, the data are retrieved from the hospital information system and completed."

According to Dewaele '257, motivation for entering the identification information through a microphone and speech recognition is to expedite the data entry process while reducing the probability of data entry error. Dewaele '257 does not suggest that hands-free operation implemented through speech recognition minimizes the risks of contamination.

Col. 7, lines 45-55 of Dewaele '257 discusses equipping an identification station with a speech recognition subassembly, and identifies an exemplary speech recognition subassembly.

However, Applicants find no disclosure or suggestion in Dewaele '257 of converting a voice command to electronic speech data for selecting one of plural dental images stored in a storage device, for display, without risking contamination by requiring the dentist or technician to operate the computer input devices, as provided by the claimed invention.

Col. 9, line 39 through col. 11, line 16 of Dewaele '257 discusses operations performed at the identification station, including entry of assorted identification information, such as patient's name, examination type, sub-examination type, comments, etc.

However, while Dewaele '257 discloses methods of entering identification information to be associated with a medical image, Applicants find no disclosure or suggestion in Dewaele '257 of processing electronic speech data, which corresponds to a voice command selecting a dental image, to cause the selected dental image to be retrieved from the storage device and then displayed on a display monitor, as provided by the claimed invention. Applicants find no suggestion in Dewaele '257 that the risks of contamination can be avoided by using speech recognition in the selection of dental images to be retrieved and displayed.

Accordingly, Applicants maintain that claims 1-18 are in condition for allowance, and earnestly solicit the allowance of claims 1-18.

If a telephone interview would be of assistance in advancing prosecution of the subject application, Applicants' undersigned attorneys invite the Examiner to telephone them at the telephone number provided below.

If a petition for an extension of time is required to make this response timely, this paper should be considered to be such a petition, and the Commissioner is authorized to charge the requisite fees to our Deposit Account No. 03-3125.

If any additional fee is required, authorization is hereby given to charge the amount of any such fee to Deposit Account No. 03-3125.

Respectfully submitted,

Dated: November 6, 2002

Norman H. Zivin, Reg. No. 25,385
Paul Teng, Reg. No. 40,837
Attorneys for Applicants
Cooper & Dunham LLP
1185 Avenue of the Americas
New York, New York 10036
(212) 278-0400